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Based on the above, Applicant respectfully requests examination on the merits of the literal English application containing replacement pages 9, 9a, and 26-30.

Additionally, prior to the examination of the above-identified modified application, the Examiner is respectfully requested to amend claims 3, 4, 5, 8, 9, 10, 12, 13, 14, 15, 18, 20, 21 and 23 as follows, so as to remove multiple dependent claims.

IN THE CLAIMS

Please amend claims 3, 4, 5, 8, 9, 10, 12, 13, 14, 15, 18, 20, 21 and 23 as follows with a marked-up copy of the replacement claims being included in the Appendix attached hereto:

3. (Amended) Process according to claim 1 in which the calcination is carried out at temperatures of 400 to 600°C for 0.5 to 2 h and the annealing for the formation of corundum is carried out by a temperature increase to 650 - 900°C for 0.5 to 1 h.

A<sub>1</sub> 4. (Amended) Process according to claim 1 in which the transitional aluminum oxides and/or corundum are ground.

5. (Amended) Process according to claim 1 in which the grinding of the transitional aluminum oxides and/or corundum is carried out in an organic liquid.

A<sub>2</sub> 8. (Amended) Process according to claim 1 with which after the aging of the solution or the sol, a gel formation or a liquid shaping is carried out, subsequently the drying, calcination and annealing take place and after the annealing a sintering is carried out at temperatures above the corundum formation temperature.

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9. (Amended) Process for coating porous or dense metallic substrates, in which the particles of the hydrolyzed sol, or the particles of a suspension of nanocorundum, produced according to claim 1 is deposited on the metallic substrates electrophoretically and subsequently subjected to an annealing.

10. (Amended) Process for the production of sintered porous or dense corundum layers according to claim 1, in which after the aging the solution or the sol is applied to a substrate and afterwards the drying, calcination and annealing are carried out.

12. (Amended) Process according to claim 10, in which after the annealing for corundum synthesis a sintering is carried out at temperatures above the corundum formation temperature.

13. (Amended) Process according to claim 10, in which after the annealing at least one further coating and at least one further annealing is carried out.

14. (Amended)  $\text{Al}_2\text{O}_3$  sintered products, produced according to claim 8, in which through annealing at 650 to 1250°C, there is a phase composition of more than 80% corundum and an average pore size of 10 - 100 nm with a porosity of  $\geq 30\%$  by volume.

15. (Amended) Dense sinter corundum layers, produced according to claim 1, on a materially different type of substrate, in which through sintering at a temperature of  $\leq 1250^\circ\text{C}$  there is an average grain size of the structure of  $\leq 0.5 \mu\text{m}$ .

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18. (Amended) Process for the production of nanoporous layers according to claim 16, in which after aging the solution or the sol is applied to a substrate and afterwards the drying and calcination are carried out.

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20. (Amended) Process according to claim 16, in which nuclei of a transitional aluminum oxide are added to the solution or to the sol.

21. (Amended) Process for coating porous or dense metallic substrates, in which the particles of the hydrolyzed sol, or the particles of a suspension of the nano porous aluminum oxide produced according to claim 16 is deposited on the metallic substrates electrophoretically.

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23. (Amended) Nanoporous Al<sub>2</sub>O<sub>3</sub> sintered products, produced according to claim 16, with which there is an average pore diameter in the range between 0.5 and 2.5 nm at a porosity of  $\geq 30\%$  by volume.

### REMARKS

Entry of the foregoing replacement sheets and amendment of the replacement claims to remove multiple dependent claims is respectfully requested prior to examination and calculation of the filing fees in the above-identified patent application.